CLAIMS

What is claimed is:

1. Method of post cure correction of tire uniformity for a tire having beads, an axis of rotation, and a tread having an equatorial plane; the method comprising the steps of:

selecting the tire during a tire manufacturing process after the selected tire has been rejected by a tire uniformity test due to at least one tire uniformity defect;

providing 360 degree circumferential tread restraint which holds the tread in an ideal tread shape, concentric to the axis of rotation and nominally perpendicular to the equatorial plane;

sealingly holding the beads concentric to, and equidistant from, the axis of rotation, and symmetrically spaced about the equatorial plane; and

inflating the selected tire to a controlled pressure, and holding the controlled pressure for a controlled time while the tread is restrained and the beads are sealingly held.

2. Method according to claim 1, further comprising the step of:

heating the selected tire before the inflating step.

3. Method according to claim 2, wherein the selected tire has ply cords, the method further comprising:

during the heating step, heating the selected tire to a controlled temperature above a glass transition temperature of the ply cord material; and

before the end of the controlled time, cooling the selected tire below the glass transition temperature of the ply cord material.

4. Method according to claim 2, further comprising:

during the heating step, heating the selected tire to a controlled temperature between 100 degrees F and 300 degrees F.

5. Method according to claim 2, further comprising:

during the heating step, heating the selected tire to a controlled temperature determined by a magnitude of one or more of the at least one tire uniformity defects.

6. Method according to claim 2, wherein:

a location on the selected tire for heating during the heating step is determined by a location and type of one or more of the at least one tire uniformity defects.

7. Method according to claim 2, wherein:

the controlled time is determined by a magnitude of one or more of the at least one tire uniformity defects.

8. Method according to claim 2, wherein:

the controlled pressure is determined by a magnitude of one or more of the at least one tire uniformity defects.

9. Method according to claim 2, wherein:

the controlled pressure is approximately equal to a normal inflation pressure for the selected tire.

10. Method according to claim 1, wherein:

the controlled pressure is determined by a magnitude of one or more of the at least one tire uniformity defects.

11. Method according to claim 1, wherein:

the controlled pressure is between 20 psig and 80 psig.

12. Method according to claim 1, wherein:

the controlled time is determined by a magnitude of one or more of the at least one tire uniformity defects.

13. Method according to claim 1, wherein:

the controlled time is between 15 minutes and 45 minutes.

14. Method according to claim 1, further comprising the step of:

after the inflating step, repeating a tire uniformity test to determine if the selected tire is still rejectable.

15. Method according to claim 14, further comprising:

repeating the method steps of claim 1 if the selected tire is still rejectable.

16. Method according to claim 15, further comprising:

scrapping the selected tire if it is still rejectable after a pre-determined number of repeats of the steps of the method of claim 15.

17. An apparatus for post cure correction of tire uniformity for a tire having beads, an axis of rotation, and a tread having an equatorial plane; wherein the apparatus

comprises:

means for providing 360 degree circumferential tread restraint which holds the tread in an ideal tread shape, concentric to the axis of rotation and nominally perpendicular to the equatorial plane;

means for sealingly holding the beads concentric to, and equidistant from, the axis of rotation, and symmetrically spaced about the equatorial plane; and

means for inflating the selected tire to a controlled pressure, and holding the controlled pressure for a controlled time while the tread is restrained and the beads are sealingly held.

18. An apparatus according to claim 17, further comprising:

means for heating the selected tire.

19. An apparatus according to claim 17, further comprising:

means for cooling the selected tire.